Notice of Allowability	Application No. 10/076,099	Applicant(s) JOHNSON ET AL.	
	Examiner Rodney G. McDonald	Art Unit 1753	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *Amendment filed 7-5-06*.

2. ☒ The allowed claim(s) is/are *1-6 and 8-26*.

3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a) ☐ All b) ☐ Some* c) ☐ None of the:
      1. ☐ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
      3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
   (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____ .
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

Rodney G. McDonald

RODNEY G. MCDONALD
PRIMARY EXAMINER

REASONS FOR ALLOWANCE

The following is an examiner's statement of reasons for allowance:

Claims 1-6 and 8-18 are allowable over the prior art of record because the prior art of record does not teach the claimed subject matter including introducing a first process gas into the reactor chamber during a first time period and introducing a second process gas having a different composition than the first process gas during a second time period which follows the first time period and causing the electromagnetic field to have an energy level which varies cyclically between at least two values each sufficient to maintain the plasma, such that each energy level value is associated with performance of a respective different treatment process on the substrate.

Claims 19-26 are allowable over the prior art of record because the prior art of record does not teach the claimed subject matter including a gas injection assembly immediately proximate the plasma region, the gas injection assembly configured to introduce a first process gas into the chamber during a first time period and introduce a second process gas having a different composition than the first process gas during a second time period which follows the first time period wherein the gas injection assembly comprises a gas injection plate provided with a plurality of gas injection nozzles, a plurality of gas injection valves, each configured to supply at least one of the first or second process gases to at least one respective one of the nozzles, and a plurality of valve controllers coupled to the plurality of gas injection valves to cause the first or second process gas to be supplied to each of the nozzles in an intermittent manner.

In the Information Disclosure Statement filed August 1, 2006 several prior art references were cited as X references. However Applicant's present claims are not suggested by the X references cited therein. Specifically, EP 0 578 011 fails to teach for example performing the different treatment processes on the substrate by changing the gases and cyclically varying the electromagnetic field but instead teaches changing the gases to alternately deposit on the substrate and clean the chamber. U.S. Pat. 4,808,258 already discussed during prosecution fails to teach changing the gases to perform the different treatment processes on the substrate while varying the energy level of the electromagnetic field cyclically. Similarly, Japan 10-041281 and the corresponding U.S. Pat 6,089,181 fails to teach changing the gases to perform the different treatment processes on the substrate while varying the energy level of the electromagnetic field cyclically.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rodney G. McDonald whose telephone number is 571-272-1340. The examiner can normally be reached on M- Th with Every other Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam X. Nguyen can be reached on 571-272-1342. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Rodney G. McDonald
Primary Examiner
Art Unit 1753

RM
September 13, 2006